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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/698,904

10/31/2003

Naysen J. Robertson

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12/15/2004

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EXAMINER

MILLER, PATRICK L

ART UNIT

PAPER NUMBER

2837

DATE MAILED: 12/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/698,904

Applicant(s)

ROBERTSON ET AL.

Examiner

Patrick Miller

Art Unit

2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15, 17 and 19 is/are rejected.
- 7) ☒ Claim(s) 16 and 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/31/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Oath/Declaration*

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required.

See MPEP §§ 602.01 and 602.02. The oath or declaration is defective because:

- The oath/declaration recites the title as, "high availability fan system." However, the full title, as shown on the specification, is "[i]ntegrated, redundant high availability fan system."

### *Specification*

2. The abstract of the disclosure is objected to because see bullet below. Correction is required.

See MPEP § 608.01(b).

- Applicant is reminded of the proper language and format for an abstract of the disclosure. The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details. The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

***Claim Objections***

3. Claims 10 and 18 are objected to because of the following informalities: see bullet(s).

Appropriate correction is required.

- Claim 10 recites, “said first fan motor or said second fan motor” (line 2). Lack of antecedent basis for these terms. Initially cited in Claim 8 as first and second fan motor receptacles, respectively.
- Claim 18 recites, “an orientation for driving said fan” (line 6 of claim). This limitation is previously recited in Claim 15. Change “an” to “the” or “said.”

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 3 and 10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.
- Claims 3 and 10 recite, the “fan motor subassembly is selectively driven by either said first fan motor or said second fan motor.” However, according to the specification (p. 9, second full paragraph) and Figure 3A, the fan motors do not selectively drive the fan motor subassembly, but rather, the fan motor subassembly is selectively driven by either the first or second electromagnetic actuators, respectively (Fig. 3A, #s 307 and 309). Or,

another interpretation, is the fan motor subassembly selectively drives either the first fan motor or the second fan motor.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 2, 4, 5, 8, 9, 11, and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Winkel et al (6,819,017).

- With respect to claims 1 and 8, Winkel et al disclose a fan motor assembly with integrated redundant availability, the fan motor assembly comprising: a fan motor subassembly comprising a first fan motor and a second fan motor (Fig. 1, #130 and #135); a fan motor selector mechanism coupled to the fan motor subassembly, where the fan motor selector mechanism is configured to selectively couple/dispose the first fan motor or the second fan motor (or fan receptacles; Fig. 3, #s 320 and 330) to the fan (col. 3, ll. 21-37); a control unit coupled to the fan motor selector mechanism, where the control unit is configured to control the fan motor selector mechanism so that either the first fan motor and the second fan motor is selectively engaged to the fan (Fig. 3, #s 320 and 330; col. 3, ll. 1-32).

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- With respect to claims 2 and 9, the fan motor subassembly is not integral to the fan motor assembly; therefore it is removably coupled (Fig. 3, #s 320 and 330 are not integral (the same component) as #310).
  - With respect to claims 4 and 11, Winkel et al disclose a fan motor performance monitoring unit that determines a performance characteristic of the first fan motor (col. 3, ll. 34-36).
  - With respect to claims 5 and 12, Winkel et al disclose a tachometer (col. 3, ll. 34-46).
6. Claims 8, 9, 11, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Gunn et al (5,436,827).
- With respect to claim 8, Gunn et al disclose a fan assembly comprising: a fan motor subassembly comprising a first fan motor receptacle and a second fan motor receptacle (Fig. 1, #108 and #109 are first and second motor receptacles); a fan motor selector mechanism coupled to the fan motor subassembly (col. 3, ll. 53-62; mechanism is the software), where the selector mechanism is configured to selectively dispose the first fan motor receptacle or the second fan motor receptacle in an orientation for driving a fan (cols. ¾, lines 62-68/1-4); and a control unit coupled to the fan motor selector mechanism (Fig. 1, #106), where the control unit controls the selector mechanism so that either of the first fan motor receptacle and the second fan motor receptacle is disposed in said orientation for driving the fan (col. 4, ll. 5-61, where disposed in an orientation is interpreted to be that #106 allows either #108 or #109 to drive #112).
  - With respect to claim 9, the fan motor subassembly is configured to be removably coupled with the fan motor assembly (col. 5, ll. 18-51).

- With respect to claim 11, Gunn et al disclose a fan motor performance monitoring unit configured to determine a performance characteristic of a first fan motor (col. 3, ll. 62-68/1-4; speed is the performance characteristic), and where the first fan motor is removably coupled to the first fan motor receptacle (Fig. 1, #112 has only one fan motor, therefore it is classified as the first fan motor; see also col. 5, ll. 18-51; Fig. 1, #118 is removably coupled to #108).
  - With respect to claim 12, the fan motor performance monitoring unit comprises a tachometer as disclosed (Fig. 1, #114; cols. 3/4, lines 62-68/1-4).
7. Claims 15, 17, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Garrett (5,938,407).
- With respect to claim 15, Garrett discloses a method comprising: providing a fan motor subassembly (Fig. 2) comprising a first fan motor receptacle having a first fan motor coupled thereto (Fig. 2, #7) and a second fan motor receptacle having a second fan motor coupled thereto (Fig. 2, #43); the fan motor subassembly is disposed in an orientation for driving a fan with the first fan motor (col. 2, ll. 47-56; #7 rotates fan when AC power is on); monitoring a performance characteristic of the first fan motor (Fig. 2, #35 monitors the AC power to the first fan motor; col. 2, ll. 52-56); comparing the measured performance characteristic of the first fan motor with a specified fan motor performance requirement (col. 2, ll. 47-67; #37, threshold to “trip” #35 is compared to current); and if the measured performance characteristic does not meet the specified performance requirement, automatically disposing the fan motor subassembly in an orientation for

engaging the fan with the second fan motor (cols. 2/3, lines 57-67/1-15; #43 now oriented to drive the fan).

- With respect to claim 17, Garrett discloses the monitoring of the performance characteristic comprises a current measuring device (Fig. 2, #35 monitors current).
- With respect to claim 19, the second fan motor is engaged with the fan (cols. 2/3, lines 57-67/1-15).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 6, 7, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Winkel et al (6,819,017) or Gunn et al (5,436,827) [separately] as applied to claims 1, 4, 8, and 11 above, and further in view of Huynh et al (6,040,668).

- Winkel et al and Gunn et al do not disclose a current measuring device (claim 13) and a comparator (claim 14).
- Huynh et al disclose a current sensor (measuring device) that determines the amount of current used by a fan, and the current signal is sent to a pair of comparators (col. 1, ll. 29-38). The motivation to use a current sensor and a comparator is to detect whether the fan motor current is within a proper range. This provides the advantage of indicating when a fault has occurred and allows a controller to shutdown or produce a warning (col. 1, ll. 35-38).



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- Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to implement into the systems of either Winkel et al or Gunn et al, a current sensor and comparators, as described above, thereby providing the advantage of allowing the Winkel et al or Gunn et al systems to determine fault conditions and shutdown the system or produce a warning should a fault occur, as taught by Huynh et al.
9. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gunn et al (5,436,827) as applied to claims 8 and 11 above.
- With respect to claim 14, Gunn et al do not disclose a comparator as described. However, the Examiner takes Official Notice that it would have been obvious to one having ordinary skill in the art at the time of the invention to use a comparator in the system of Gunn et al to determine, by comparison, when the fan speed is above or below a predetermined level, thus providing the advantage of indicating a fault in one of the control boards.

***Allowable Subject Matter***

10. Claims 16 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
- With respect to claim 16, the Prior Art discloses monitoring the performance of a fan motor using a tachometer; however, the Prior Art does not disclose a method with the limitations of claim 15 that also uses a tachometer.

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- With respect to claim 18, the Prior Art does not disclose removal of the first fan motor if the measured performance characteristic of the fan motor does not meet the specified fan motor performance requirement.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick Miller whose telephone number is 571-272-2070. The examiner can normally be reached on M-F, 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin can be reached on 571-272-2800 ext 41. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9318.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-3431.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

pm  
December 10, 2004

*Patrick Miller*

Patrick Miller  
Examiner  
Art Unit 2837

*[Signature]*

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